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EXAMINER	
CAPUTO, LISA M	
ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/837,744	SCHRAMM, HARRY F.	
	Examiner	Art Unit	
	Lisa M Caputo	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36 and 38-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,25,26,28-35 and 38-46* is/are rejected.

7)☒ Claim(s) *24,27 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Amendment

1. Receipt is acknowledged of the amendment and drawing corrections filed 24 October 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 9, 12, 21-23, 28, 33-35, 40, and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christy (U.S. Patent No. 6,119,943) in view of Storch et al. (U.S. Patent No. 5,283,422, from hereinafter "Storch").

Christy teaches a multi-layer bar code arrangement that uses wavelength separation. Christy discloses FIG. 1 schematically illustrates a substrate 10 according to the present invention. The substrate 10 material itself is typically paper, but may also comprise packaging material, plastic, films, or almost any material capable of receiving and retaining clear machine readable imaging thereon. In a predetermined area--shown in dotted line at 11 in FIG. 1--a first machine readable identification code 12 is imaged on substrate 10. The first code 12 is a bar code, although other machine readable codes may also be utilized. It is typically imaged on utilizing a toner that is applied by electron beam, or ion deposition, or like techniques such as ink jet, electrophotography or electrography. The toner is preferred to be of a spectral response in contrast to that

of the substrate 10 in the region of the first predetermined wavelength range of electromagnetic energy, but one that does not interfere with the response of the second code 13. The first code 12 is opaque to a first predetermined wavelength range of electromagnetic energy (e.g. substantially the infra-red region of light), and is transparent to a second predetermined wavelength range of electromagnetic energy different from the first range (e.g. substantially the visible light spectrum). The substrate of FIG. 1 also comprises a second machine readable code 13 which overlays and at least partially covers the first code 12 (as recited in claim 12 of the instant application). The second code 13, also imaged using toner and typically by electron beam or ion deposition techniques, is transparent to the first predetermined wavelength range of electromagnetic energy, and opaque to the second range. As for the code 12, the code 13 is a bar code. An example of the infra-red-opaque toner that could be utilized for the first code 12 is a blend available from ICMI and known as "QA6-14B" which uses a small percentage load of an infra-red absorbing dye in the toner. The toner used for the second code 13 may comprise a jet ink from a Canon Bubblejet Cartridge (BC-01), which is opaque in the visible spectrum but transparent in the infrared. Alternatively ultra-violet responding toner could be incorporated into the toner used for the top, second code 13. Utilizing the substrate of FIG. 1, more information can be packed into the area 11 than in conventional systems. Both bar codes 12, 13 are capable of being readily scanned, however. FIG. 2 schematically illustrates this. Shown are two different scanner heads 15, 16 (as recited in claims 8, 25-26, and 38-39) connected by leads 17, 18 respectively to an electronic controller 19, all of these elements being conventional

per se. The heads 15, 16 are illustrated in FIG. 2 in the form of wand scanners. The head 15 is a scan head which emits light in the visible range, such as an RJS Autoscan bar code verifier designed for the visible range, while the head 16 is designed for the infra-red range (e.g. also an RJS Autoscan). The reflectance plots from the electronic controller 19 are shown schematically in FIG. 3, and this information is ultimately sent to a decoding algorithm to translate signals to useful data (as recited in claims 44-46 of the instant application; further it is well known in the art that ASCII data strings are conventionally decoded in order to discern information to computers and video screens). In the FIG. 2 embodiment the bar codes 12, 13 are scanned in two different passes. FIG. 4 illustrates an exemplary scanner according to the present invention in which the heads 15, 16 are mounted by a common housing assembly. The common mounting means may be the housing 21, which is shown in cross-section in FIG. 4, having side walls to which the scanner heads 15 are mounted, as by mounting bands 22. The housing 21 itself may be contoured to easily fit in a user's hand, or to be mounted on an automated piece of equipment. Utilizing the apparatus 23 of FIG. 4 it is possible to read both of the bar codes 12, 13 in a single pass. While the apparatus 23 is exemplary, a wide variety of different embodiments can also be utilized. For example the mounting means may mount two conventional stationary scanning heads, such as provided in supermarket check out counters, adjacent each other, typically in line in the expected direction of movement of the substrate to be scanned with respect to the scanner heads. Either the scanner heads 15, 16 can be moved relative to the substrate

10, or vice versa, or both can be moved relative to each other at the same time. A single head emitting two (or more) discrete light wavelength ranges also may be utilized.

While the above description is provided for a situation in which there are two bar codes 12, 13, it is to be understood that other bar codes may also be provided within the area 11. This is schematically illustrated at 25 in FIG. 1 by a third bar code 25. The third bar code 25 will be imaged over and at least partially cover the codes 12, 13, and the third code 25 is transparent to the first and second predetermined wavelength ranges, and responsive either by its opacity to a third range or by its ability to fluoresce in the presence of the energy of a third range, while the first and second codes are transparent to that third range. (Reading of the third bar code 25 may be provided utilizing the third reader 20 schematically illustrated in dotted line in FIG. 2.). In order to implement utilization of a third 25, or more, bar codes in the same area 11, dye agents may be utilized which are responsive to very narrow wavelength bands within the infra-red region, or within the visible spectrum, such as available from PitKit. Any number of layers could be utilized as long as the detector (scanner) band pass is narrow enough to prevent interfering cross-talk from other layers of the stacked bar codes. FIG. 5 illustrates the basic concept of the invention utilized with two-dimensional bar codes (i.e. adding a third dimension thereto) (as recited in claims 2-3, 22-23, and 34-35 of the instant application). In this embodiment components comparable to the FIG. 1 embodiment are shown by the same reference numeral only preceded by a "1". Within the predetermined area 111 of the substrate 110 a first two-dimensional bar code 112 is imaged, and then a second 113 is imaged over the first 112. Bar code layer 112 is

typically an IR opaque layer which is transparent to the visible spectrum, while the top bar code layer 113 is composed of toner which is transparent to the infra-red region and opaque to the visible light spectrum. It will be seen from FIGS. 1-5 that typically multiple layers of bar codes or other machine readable codes substantially increase the density of information gathered by the scanner heads within the same scan pass length or area coverage. FIG. 6 illustrates another exemplary embodiment according to the present invention. In this embodiments components the same as those of FIG. 1 are shown by the same reference numeral. In the FIG. 6 embodiment the substrate 10 is not designed to pack more information into a small area (although that could be done too by providing two bar codes 12, 13 as illustrated in FIG. 1 and then overlaying them as will be described hereafter); rather the main function of the FIG. 6 embodiment is to provide a security feature which hides the bar code 12 so that it is "invisible". While in the FIG. 1 embodiment the bar code 13 essentially "hides" the bar code 12 so that a security feature is provided there too, the top bar code 13 is readily viewed. In the FIG. 6 embodiment the bar code 12 is not recognizable at all.

In the FIG. 6 embodiment an overlay 27 is provided which substantially completely covers the bar code 12 and the predetermined area 11, in fact covering the overlapping area 28 of the substrate 10. The bar code 12 is as described in FIG. 1 whereas the overlay in the form of a security block 27 comprises toner which is transparent to the wavelength of light to which the code 12 is opaque, and opaque to the second predetermined wavelength range of electromagnetic energy. In this embodiment the code 12 need not be transparent in the visible area of the spectrum so

long as the block 27 is sufficiently opaque to hide it. The block 27 need not be imaged onto the substrate 10, overlaying the code 12, by a toner-based process (as recited in claims 9, 28, and 40 of the instant application). Imaging may be done by numerous other processes such as conventional ink jet printing, or conventional litho or flexo printing techniques. The block 27 need not be black but can be any number of different "spot colors", or multiple layers of spot colors. In one example of implementation of the invention as described above, simulated bars of a bar code 12 were imaged and fixed onto a paper substrate 10 using the ICMI QA6-14B infra-red absorbing invisible toner. These bars were scanned with an RJS Autoscan unit using the infra-red wavelength scanning head. (The exact wavelength and bandwidth is unknown.) The width of the bars were measured at 0.0740". The simulated bars of a bar code 12 were then over printed with a blob 27 of black spot color; and a second bar code using a Canon BJ-10 bubble jet printer. The cartridge used was the Canon BC-01 cartridge with the standard factory ink in it. This was previously tested and founded to be transparent in the infra-red area of the spectrum. When the infra-red scanning head of the RJS Autoscan was placed over the blob of infra-red absorbing invisible toner 27 and the bar code, the only thing which the scan head recorded was the simulated bar code 12 bars underneath, which were created with the IR opaque toner. The bar widths were measured at 0.0742", well within the limits of experimental error. It will thus be seen that according to the present invention a simple yet effective substrate, method of forming the substrate, and scanner particularly utilizable with such a substrate, have been provided which allow more information to be packed into a predetermined area on a substrate, and/or

provide a security feature for a bar code on a substrate. While the invention has been herein shown and described in what is presently conceived to be the most practical and preferred embodiment thereof it will be apparent to those of ordinary skill in the art that many modifications may be made thereof within the scope of the invention, which scope is to be accorded the broadest interpretation of the appended claims so as to encompass all equivalent products, processes, and devices (see Figures 1-8, col 3 line 59 to col 6 line 42).

Hence, Christy teaches a machine readable multiple layer label (within an automatic identification system) that has a plurality of machine readable marking layers stacked one upon another with each marking layer encoding an identification symbol detectable using a sensor.

Regarding claims 1, 21, and 33, Christy fails to teach that the symbol is detectable using a sensor selected from the group of x-ray, radar, capacitance, thermal, and magnetic sensors.

Storch teaches a system for information transfer. Storch discloses that only apparatus for reading coded information optically from chips has been described in detail. However, light is only one type of "wave" energy. Devices which emit and detect other forms of wave energy such as radio waves may be used. Assuming an emitter and detector of wave energy are used, other ways of imparting binary code elements on gambling chips may be used. For example, the "black" stripes could be recessed. This approach, in effect, requires measuring the distance from the chip rack sensor/emitter to the edge of the chip, for example, using radar techniques or capacitance distance

measuring techniques known in the respective arts. As to reading magnetically coded information, Hall effect tranducers in the chip rack may be used to detect a difference in ambient magnetism by the proximity of magnetic material in or on the chips, or, magnetic material may be put in the chip rack and metallic material or material with metallic properties used on the edge surface of the casino chip to be detected by the magnetic sensors in the chip rack. Alternatively, codes could be imparted in magnetic storage material such as is on the back of some credit cords, and read with appropriate reading apparatus, etc (see col 40, lines 40-62).

In view of the teaching of Storch, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the use of radar, capacitance or magnetic sensors because these methods are conventional and well known in the art to be efficient means of reading coding and data.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christy as modified by Storch and further in view of Dumont (U.S. Patent No. 5,540,301). The teachings of Christy as modified by Storch have been discussed above.

Christy as modified by Storch fails to teach the use of an x-ray sensor to read the barcode.

Dumont teaches an automated bulk self-checkout station apparatus. Dumont discloses a holder 18 either has holes through which scanner assembly 40 reads bar codes 36 or holder 18 is transparent to the scanning medium used. A variety of scanning media are contemplated for scanner assembly 40. These include ultra-sound

waves, micro-waves, X-rays, infra-red rays, and ultra violet rays. (see Figure 2, col 5, lines 51-56).

In view of the teaching of Dumont, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an x-ray sensor to read a barcode since it is well known in the art that an x-ray sensor is a powerful and efficient means to read data.

4. Claims 7-8, 10-11, 13-20, 25-26, 29-32, 38-39, and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christy as modified by Storch and further in view of Greenaway (U.S. Patent No. 4,119,361). The teachings of Christy as modified by Storch have been discussed above.

Regarding claim 13, Christy fails to teach that the symbol is detectable using a sensor selected from the group of x-ray, radar, capacitance, thermal, and magnetic sensors.

Storch teaches a system for information transfer. Storch discloses that only apparatus for reading coded information optically from chips has been described in detail. However, light is only one type of "wave" energy. Devices which emit and detect other forms of wave energy such as radio waves may be used. Assuming an emitter and detector of wave energy are used, other ways of imparting binary code elements on gambling chips may be used. For example, the "black" stripes could be recessed. This approach, in effect, requires measuring the distance from the chip rack sensor/emitter to the edge of the chip, for example, using radar techniques or capacitance distance measuring techniques known in the respective arts. As to reading magnetically coded

information, Hall effect tranducers in the chip rack may be used to detect a difference in ambient magnetism by the proximity of magnetic material in or on the chips, or, magnetic material may be put in the chip rack and metallic material or material with metallic properties used on the edge surface of the casino chip to be detected by the magnetic sensors in the chip rack. Alternatively, codes could be imparted in magnetic storage material such as is on the back of some credit cords, and read with appropriate reading apparatus, etc (see col 40, lines 40-62).

In view of the teaching of Storch, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the use of radar, capacitance or magnetic sensors because these methods are conventional and well known in the art to be efficient means of reading coding and data.

Regarding claims 7-8, 10-11, 13-14, 25-26, 29-30, 38-39, and 41 Christy as modified by Storch fails to teach that there is a neutral layer disposed between two of the plurality of layers, or separating two of the layers.

Greenaway teaches a multiplayer identification card. Greenaway discloses that the present invention comprises generally an identification card containing information in the form of machine-readable optical markings contained between two protective layers. The layers prevent determination of the optical markings by ordinary observation and serve to prevent fraudulent determination of those markings by removal of the layers. The card may be constructed for machine reading either by use of transmission or reflection procedures. More particularly, the objects of the invention may be achieved by the combination of the following features: (a) the optical markings are

hidden or obscured between two protective layers, one of which at least can be penetrated by infrared light, and both protective layers are opaque to light of smaller wavelengths; (b) the optical markings have a fine structure with at least 300 lines per mm; and (c) the protective layers are so connected to the information layer that the information is destroyed when one of the protective layers is removed. Particular embodiments are more fully described hereinafter in connection with the drawing.

The identification card illustrated in FIG. 1 comprises a protective layer 1, an information layer 2 and a further protective layer 3. The information layer 2 is embedded between the two protective layers 1 and 3 and is so joined to them, in the manner explained below, that if an attempt is made to remove one of the protective layers 1 or 3 the information stored in the information layer 2 is destroyed. The protective layers 1 and 3 can be penetrated by infrared light, but are opaque to light of shorter wavelengths. The optical markings (not shown in FIG. 1), which are provided in the information layer 2, are hidden between the two protective layers 1 and 3, and cannot be detected in visible light. One or more infrared reading light beams 4, which are directed onto the identification card from a reading apparatus (not illustrated) are able to penetrate the protective layers 1 and 3 without restriction and they leave the identification card as modulated information light beams 5 (see Figure 1, col 1 line 67 to col 2 line 40). These layers are composed of different mediums and detected as recited in claims 7-8, 25-26, and 38-39 in the instant application.

In view of the teaching of Greenaway it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ neutral layers so

that the marking layers have an additional layer of protection and data integrity is ensured. Regarding claim 14, Christy teaches that the substrate of FIG. 1 also comprises a second machine readable code 13 which overlays and at least partially covers the first code 12, which causes an offset.

Regarding claims 15-20, 31-32, and 42-43 Christy as modified by Storch fails to teach making the medium by removing parts, forming a recess and then re-filling it, using a transfer tape, using a stencil, or using a segmented symbol.

Greenaway teaches FIG. 3 shows an identification card readable by transmission, and FIG. 4, a card readable by reflection. In each case the protective layer 9 additionally serves as the information layer. It is therefore necessary to join together only two layers in these embodiments, the joining being in such a way that the information is destroyed when the layers are separated from each other. The optical markings, designated by the numeral 10 in FIGS. 3 and 4, are preferably impressed in the protective layer 9, which is made of plastics material. In FIG. 4, they are covered by the reflection layer 6. The second protective layer 3 in FIG. 4 is laminated with the layer 9 or 6 in such a way that an intimate bond is achieved. The protective layer 3 may be a lacquer layer which reacts chemically with the contiguous layer. It may however be bonded on with an adhesive that reacts chemically with both layers. In both cases the chemical reaction is limited to a thin boundary layer so that the optical markings 10 are not destroyed (see Figures 3-4, col 3 lines 37-55).

In view of the teaching of Greenaway, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ etching or re-filling because these are efficient means of creating barcodes or machine readable codes on a material that is not conducive to conventional barcode processes. In addition, using a stencil, a transfer tape, or segmented symbol are also favorable methods to produce the barcode and can also be used as recognized methods of coding.

Allowable Subject Matter

5. Claims 24, 27, and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of Nambu (U.S. Patent No. 4,939,757) teaches that an X-ray CT device 6 comprises X-ray tube 7 and X-ray sensor 8 arranged at a position opposite thereto. Lungs 2 are located between tube 7 and sensor 8. Controller 9 is connected to valve 4 and X-ray CT device 6. When a desired amount of gaseous contrast medium is supplied, controller 9 controls CT device 6 to pick up a tomographic image. CT device 6 uses a high-speed X-ray CT scanner to pick up, one after another, 10 tomographic images, for example, during one breathing cycle while the gaseous contrast medium is being supplied to lungs 2 (see Figure 1, col 1, lines 10-21). Although the prior art of Nambu teaches an apparatus for diagnosing pulmonary ventilation function that utilizes an x-ray sensor with tomographic capabilities, it would not have been obvious to one of

ordinary skill in the art at the time the invention was made to apply this to the reading of a plurality of machine readable marking layers because there is no reason to modify the Nambu reference in order to read marking layers since it's main objective is to work with living objects.

Response to Arguments

7. Applicant's arguments filed 24 October 2003 have been fully considered but they are not persuasive.

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the invention uses an inducement and response approach as opposed to Christy, which teaches a method of wavelength separation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Examiner again respectfully submits that, as claimed, Christy along with other pertinent prior art teaches the limitations of the claims.

In response to applicant's argument that Christy does not teach that the sensors could be any of the group of x-ray, radar, capacitance, thermal, or magnetic sensors, examiner has provided additional prior art in the form of Storch. See 35 U.S.C. 103 rejections above. It is appropriate to combine Storch with Christy because Christy teaches that although the ranges for where the substrate is readable are visible light and infra-red light, other spectral bandwidths can be utilized within a given region or

regions of the electromagnetic spectrum (see Christy, col 2, lines 1-15), which allows for the modification of Christy with Storch, which teaches the use of radio waves (i.e. radar), which is consistent with the group of sensors consisting of x-ray, radar, capacitance, thermal, and magnetic sensors (see Storch, col 40, lines 40-64).

In response to the applicant's argument that Greenaway teaches different kinds of separating layers, examiner respectfully submits that, as claimed, Christy along with Greenaway teaches the limitations of the claims.

In response to applicant's argument that two different types of sensors are not taught by Christy, examiner respectfully disagrees. Christy teaches the use of two different scanner heads 15,16 (see Figure 2, col 4, lines 30-45), which entails two different scanners. Since Christy is modified by Storch to use different wavelengths, the scanner heads are able to use different types of scanners.

In response to applicant's arguments that the dependent limitations are not taught by the prior art, the examiner respectfully disagrees. For example, regarding claims 7 and 8, Christy and Storch do indeed teach the limitations of having sensors from the different wavelength groups, and regarding claims 20, 31-32, and 42-43, it can be seen in Greenaway (col 3) that there are different optical marking patterns. Hence, it is respectfully submitted that the references (Christy, Storch, Greenaway, and Dumont) used above teach all of the limitations of the claims as recited. See 35 U.S.C. 103 rejections above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ***Lisa M. Caputo*** whose telephone number is **(703) 308-**

8505. Note: As of January 15, 2004, Examiner Caputo's new telephone number is **(571) 272-2388**. The examiner can normally be reached between the hours of 8:30AM to 5:00PM Monday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 703-305-3503. Note: As of January 15, 2004, Examiner Lee's new telephone number is **(571) 272-2398.** The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**lisa.caputo@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

LMC
January 7, 2004

DIANE I. LEE
PRIMARY EXAMINER